

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 5 25063 CENTER RIDGE ROAD WESTLAKE, OH 44145-4114

March 2, 2017

MEMORANDUM

SUBJECT: Clean Air Act Monitoring, American Electric Power, Cheshire, Ohio

FROM: Katharina Bellairs, Environmental Engineer (ME-W)

THRU: Mark Conti, Lead Environmental Engineer (ME-W) WEC

TO: Air Enforcement and Compliance Assurance Branch, IL/IN Section (AE-18J)

Nathan Frank, Section Chief

On October 28, 2016, I performed off-site visible emission readings under the Clean Air Act at American Electric Power, Gavin Station, Cheshire, Ohio, at Ethan Chatfield's request. My findings are attached.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 5 25063 CENTER RIDGE ROAD

25063 CENTER RIDGE ROAI WESTLAKE, OHIO 44145

DATE:

March 2, 2017

SUBJECT:

CLEAN AIR ACT OFF-SITE MONITORING EVALUTION REPORT

American Electric Power – Gavin Generating Station

FROM:

Katharina Bellairs, Environmental Engineer

OECA - Cleveland Office

THRU:

Mark Conti, Lead Environmental Engineer

OECA - Cleveland Office

TO:

Nathan Frank, Section Chief

Air & Radiation Division, AECAB (IL/IN)

BASIC INFORMATION

Facility Name: American Electric Power – Gavin Generating Station

Facility Location: 4 7397 Ohio Seven, Cheshire, Ohio 45620

Date of Inspection: October 28, 2016

Lead Monitor: Katharina Bellairs, Environmental Engineer

Purpose of Monitoring Evaluation: Perform Method 9 and Alternative Method 082 Opacity

Readings

Facility Type: Electric Generating Station

Arrival Time: approximately 1:50 p.m. EST **Departure Time:** approximately 2:50 p.m. EST

MONITORING INFORMATION

Field Measurements: were taken during this inspection.

I arrived in Robinson, West Virginia, across the Ohio River from the Gavin Power Plant, and stopped near the intersection of Airport Road and Ohio River Road. I performed Method 9 visible emissions readings from 2:02 p.m. to 2:32 p.m. EST and Method 082 alternative visible

emission readings with Virtual Technology's opacity camera from 1:59 p.m. EST to 2:40 p.m. EST. My reading location was at 38.913728, -82.113848.

SIGNATURES

Lead Monitor: Date: 3/2/17

Lead Environmental Engineer: Mask Conti Date: 3-2-2017

APPENDICES AND ATTACHMENTS

Method 9 Visible Opacity Reading Sheets Virtual Technology Method 082 Report

VISIBLE EMISSION OBSERVATION FORM

CONSTINUTION DATE

START TIME

EN THE

LATER GANIN	and lander		0/10	2		1000M12:320m1
73970H-7		Z) o	15	30	4 5	S1/EMAXO
rander of the state of the stat		175	115	75	75	
Cheshire 10H 145620		2 75	170	76	10	
		3 170	175	65	55	A STATE OF THE PARTY OF THE PAR
for market within		• 60	145	65	55	the state of the s
EASTERN STACK OPENONO MODE (s 16-	65	70	65	And the second s
GEODESE SYEZHAN BOWL	1 (6 70	70	65	60	are minimum annual quantity as a the many and the state of the state o
point in plume after steam		7 140	60	6.5	45	microphysika (1990 and 1990 an
The state of the s		45	50	45	45	man of man has given produced to the second party of the second of the s
HENRY AND OF SYNAM THOUGH LOVE ON THE STATE OF S	5	HS	45	50	40	The section of the se
HEART AROY CARRO LEVEL PECHT NO ANY TO CHESTIFF 2395. 1106 TO 2400 A THAIT 1095 TO PROLESS TO CHESTIFF TO CHEST		0 50	60	y_{\odot}	45	About and the Control of the Control
breat 7996 Prim 790 6-FF 2 5 7 5 2 5 7 6	1	150	45	45	50	The state of the s
STERN 7296 FO END 729 6 FT START 3 5 7 S END 3 5 7 S VERTICAL ANGLE TO PLIME HORIZONTAL ANGLE TO PLIME 18 2 E 12/21/16	- -	2 60	पित्री	40	<u>70</u>	to the state of th
The state of the s		3 15.5°	55	UF	EX.	The state of the s
EXECUTE EMPSIONS A TOUR S MOKE OFFER A TOURS MOKE OFFER STAND NOTE TO ATTOP OF PHONE WOUTH A TOP OF OFFER PLANE FOR WITH DROPLET PLANE FOR WITH DROPLET PLANE	1	4 65	55	45	50	tor in the second secon
LEWISON COTOUR AND AND ANOTOTIC ALONG SAIN	4 1	5 60	46	40	35	
FANT GRAU BOAYAU ATROHOM DENOFOL HA	괴 [7	6 1K	UÓ	UA	55	and a second supplies the second
FORM IN THE PULLER AT MICHOLOGICAL WAS DETERMINED AND PORT OF THE PULLER AT MICHOLOGICAL WAS DETERMINED TO PORT OF THE PULL OF	9	1/20	55	弓	45	and the second s
DESCRIBE MIRE BANGRARO		BUC	160	60	45	The second of the second secon
EXAMPLUESKY BOOK BRY CONDITIONS		9 UZ	427	US	36	
The state of the s	. 2	0 140	11/2	ZE	40	
	7 7	15	5		55	and the state of t
START 4 MP H GOD 4 MP H START NW GONW ALDSON TELES MISS MET BLLD TELES MISS PERSON	z	2 5	55	50	ATTENNA STATE	چې چې د ختار پېښار خود او د د د د د د د د د د د د د د د د د
START 52°F 0052°F 39°F 61%	Jtz	3 6		50	30	
MAN () SOURCE FALORI EKELISH ON HOUSE WHO	7 2	4 14	145	-	50	quarity and the second
men de	-		40	40	ter this was	material de quadra para material de pida (de pida persona proposa pida de la material de secuente de la secuente del la secuente de la secuente del la secuente de la secuente del la secue
Taken Y		145			22	area de la companya del la companya de la compa
X BOOK FORT	*****		<u>40</u> 45	150		A
			- In the second	182	70	A CONTRACTOR OF THE PROPERTY O
	1		60	142	50	Non-the-Barrot Joseph Antonion (April Signato) - prompting annount angular angular angular angular annount anno
			122	ΚÓ	22	the state of the s
		عللك		155	40	and the second
OBSERVENT COSMON	l loss	ENTERS !				2011
- 160-/		V)CC Envensu	tha		19	
SLAT LOCATION LINE			The state of the s		24	Way 10/28/16
		ANEXADO FR-H-TE	13/15	1	210	GERS US FRA
AZANTONAL INFORMOTON		THE BY	ME	A SAMON		PAGE 1
Annual Laboratory 18 of Charles Child.	IM	nitle	w.Eu	rtse	PC	is 95 10/13/16
The consideration with the set of the first		PPANETAL STATE	erandipungabah	Madamakan v	Page No source	and the second s
		MINUED I	OSV #1	*XFX	w.mee	
in the first first term to the control of the contr	entre e e . II.	and the second				The second secon

VISIBLE EMISSION	N OBSERVA	ATION FORM	FOIII NUIII	Dei			raye	OI .			
Method Used		·	Continued	on VEO Fo	orm Number	r					
Method 9 Equipment Owner	ar iç.		Observation	on Date	Time	Zone		Start Time	End	Time	
N/A Facility Name			10/28/2	2016	ES	Т		13:59:24	14	:40:23	
AEP Gavin Power Plant		÷.						Comments			
EO Street Address 7397 OH-7	1	50	45	45	50						
EO City	EO State	EO Zip	2	45	45	40	40			-	
Cheshire	ОН	45620	-3	45	40	40	45	Avg. Opaci	ty = 44	.167	
Process N/A	Unit N/A	Operating Mode N/A	4	45	45	40	45			3	
Control Equipment	JIN/A	Operating Mode	5	45	45	50	40				
N/A		N/A	6	45	45	40	45				N.
Describe Emission Point	E		7	45	45	40	40	0			
gray emissions after the middle stack	condensed wa	ater plume from	8	45	40	40	40	×			
Height of Emiss. Pt.		Pt. Rel. to Observer	9	40	40	40	40				
Start 2374.47 End Same Distance to Emiss. Pt.	Start 2370.47 Direction to Emi:	End Same ss. Pt. (Degrees)	10	35	35	40	35				21
Start 7295.56 End Same	Start 356.56	End Same	11	35	40	40	40		=		
Vertical Angle to Obs. Pt.	Direction to Obs	. Pt. End Same	12	45	35	45	40				
Start 18 End Same Distance and Direction to Observation			13	45	35	35	40				
Start 3732.72 / 86.63	End Same		14	45	45	45	45	1 10 10 10			
Describe Emissions gray looping plume	e after		15	45	40	40	45				
Start condensed water plume	End Same		16	45	45	35	45		8 4		
Emission Color Start End	Water Droplet P Attached: (X) [lume Detached: () N/A: ()	17	40	45	45	35				
Describe Plume Background			18	45	45	45	40	1			
Start blue sky Background Color	End Same Sky Conditions		19	40	40	40	45	-			
Start blue End Same	Start Clear	End Same	20	45	45	40	40				
Wind Speed Start 4 End Same	Wind Direction Start NW	End Same	21	45	40	45	45			NAMES OF TAXABLE PARTY.	
Ambient Temp. Wet B Start 52 End Same Start		RH Percent Start 61 End Same	22	40	45	45	45	+			
etart 92 Elid Saille etart	Elia Saille	ettart et Eliu Sairie	23	40	45	45	45	+			
			24	40	45	45	45				
"			25	45	45	40	30	+			
图 (·		A. The state of th	26	30	45	40	35	+			
大人 是位		1	27	45	40	40	40	+			
ca a			28	45		40	45	+			
			29	45	45	40	40	+			-
7-17	The state of the s	1/4	30			_	-	 			
		100	31	45	40	45	40				
			32	45	45	45	40	+			_
		The second	-	45	40	45	45				
				Observers Name (Print) Katharina Bellairs							
				Observers Signature Date							
George na transfer tons	Will Describe Lesselle				Bellai	rs	12	/22/2016			
Latitu 082.06.50.612 W 38.5	^{de} 54.49.201 N	Declination	Organiza USEP	_{tion} A Regio	on 5						
Notes			Certified	Ву			Date				
Contact Katharina Bella		13,	ratna	rina Be	IIdIIS		2/2	27/2017	3		
bellairs.katharina@epa	.gov										

	0	15	30	45	Comments		0	15	30	45	Comments
33	40	45	45	45		77			<u> </u>		
34	45	45	45	40		78			 		
35	45	45	40	40		79				<u> </u>	
36	40	45	45	45		80					
37	45	40	40	40	<u> </u>	81		<u> </u>	ļ		
38	45	45	40	45		82	<u> </u>				
39	45	40	40	45		83			†	<u></u>	
40	40	40	45	45		84					
41	45	45	45	45		85					
42	45					86					·
43				<u> </u>		87		-			
44						88			T		
45	-					89		l	1	1	
46						90	ĺ		 		
47						91			1		
48				·		92					\$
49				·		93					
50						94					
51			<u> </u>			95					
52				1		96					
53						97					
54						98					
55						99					
56						100					
57						101					
58						102					
59						103					
60						104					
61						105					
62						106					
63				Ŷ		107					
64						108					
65						109					
66						110	<u> </u>				
67						111					
		**:				112					
69						113					
70						114					
71						115					
72						116					
73						117					
74						118					
75						119	1				
76						120					-

Source

Name: AEP Gavin Power Plant

Address: 7397 OH-7 City: Cheshire State: OH Zip: 45620

Phone: Local ID:

Regulatory

Permit ID: Condition:

Regulatory Reference:

Process

Process: N/A Unit: N/A Operating Mode: N/A

Complaint

Name: Address: City: State: NA Zip:

Equipment

Name: N/A

Type of Inspection

Type of Inspection: Surveillance

Sun

Altitude: 32.6 Azimuth: 211.2 Data Source: Calculated

Map Information

Map Type: USGSDRG Map Width: 32100

Analysis

Averaging Type: Manual

Method: Method 9

Number of Images: 24 Rolling High Count: 24 Seconds Between Images: 15

Who Created: DOCS II Creation Date: 9/22/2011 Analyst Name: Pat Grieco

Affiliation: Virtual Technology LLC

Comments:

Image	Opacity	Coordinates	Date Taken	Camera Information
	50	Foreground Coordinates	Date Taken 10/28/20	016 1:59:24 PM
		T L B R	Camera Mfg/Model Canon/C	Canon PowerShot G15
		170 347 182 357	Wind Direction SW	Wind Speed 9
		Background Coordinates	Temperature 56	Rel Humidity 60
IMG_1233.JPG		177 41 189 52	Wet Bulb Temp 42	
	45	Foreground Coordinates T L B R	Date Taken 10/28/20	
· ·		166 373 178 384	Camera Mfg/Model Canon/C	Canon PowerShot G15
		Background Coordinates	Wind Direction SW	Wind Speed 9
		T L B R	Temperature 56	Rel Humidity 60
IMG_1234.JPG		166 73 178 84	Wet Bulb Temp 42	
	45	Foreground Coordinates	Date Taken 10/28/20	016_1:59:54 PM
	45	T L B R	Camera Mfg/Model Canon/0	
		162 342 174 353	The second of the second	
		Background Coordinates	Wind Direction SW	Wind Speed 9
IMO 1005 IDO		T L B R	Temperature 56	Rel Humidity 60
IMG_1235.JPG		159 523 171 533	Wet Bulb Temp 42	
	50	Foreground Coordinates	Date Taken 10/28/20	016 2:00:09 PM
		T L B R	Camera Mfg/Model Canon/0	Canon PowerShot G15
		159 398 171 408	Wind Direction SW	Wind Speed 9
		Background Coordinates T L B R	Temperature 56	Rel Humidity 60
IMG_1236.JPG		168 551 180 562	Wet Bulb Temp 42	
		Foreground Coordinates	Date Taken 10/28/20	016 2:00:24 DM
	45	T L B R		
		213 454 225 465	Camera Mfg/Model Canon/	
	1.0	Background Coordinates	Wind Direction SW	Wind Speed 9
		T L B R	Temperature 56	Rel Humidity 60
IMG_1237.JPG		208 572 220 582	Wet Bulb Temp 42	
	45	Foreground Coordinates	Date Taken 10/28/2	016 2:00:39 PM
Control of the Contro		T L B R	Camera Mfg/Model Canon/o	Canon PowerShot G15
		90 478 102 488	Wind Direction SW	Wind Speed 9
		Background Coordinates	Temperature 56	Rel Humidity 60
IMG 1238.JPG		T L B R 90 583 102 594	Wet Bulb Temp 42	Remaining 00
		7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7	<u> </u>	
10 00000000000000000000000000000000000	40	Foreground Coordinates T L B R	Date Taken 10/28/2	016 2:00:54 PM
		94 492 106 502	Camera Mfg/Model Canon/	Canon PowerShot G15
		Background Coordinates	Wind Direction SW	Wind Speed 9
3		T L B R	Temperature 56	Rel Humidity 60
IMG_1239.JPG		98 585 110 596	Wet Bulb Temp 42	X
	40	Foreground Coordinates	Date Taken 10/28/2	016 2:01:09 PM
1	40	T L B R	Camera Mfg/Model Canon/	
		105 508 117 518		
		Background Coordinates	Wind Direction SW	Wind Speed 9
IMO 4040 IDG		T L B R	Temperature 56	Rel Humidity 60
IMG_1240.JPG		106 594 118 605	Wet Bulb Temp 42	

lmage	Opacity	Coordinates	Date Taken	Camera Information
anglanya berekan	45	Foreground Coordinates	Date Taken 10/28/20	16 2:01:24 PM
		T L B R	Camera Mfg/Model Canon/C	anon PowerShot G15
		99 513 111 524	Wind Direction SW	Wind Speed 9
		Background Coordinates	Temperature 56	Rel Humidity 60
IMG_1241.JPG		T L B R	3 1	recitionially 00
		100 75 112 85	Wet Bulb Temp 42	
	40	Foreground Coordinates T L B R	Date Taken 10/28/20	16 2:01:39 PM
		110 493 122 503	Camera Mfg/Model Canon/C	anon PowerShot G15
		Background Coordinates	Wind Direction SW	Wind Speed 9
		T L B R	Temperature 56	Rel Humidity 60
IMG_1242.JPG		126 60 138 70	Wet Bulb Temp 42	
		Foreground Coordinates	Date Taken 10/28/20	16. 2:01:54 DM
	40	T L B R	The state of the s	
		128 543 140 553	Camera Mfg/Model Canon/C	
	22	Background Coordinates	Wind Direction SW	Wind Speed 9
	2.5	T L B R	Temperature 56	Rel Humidity 60
IMG_1243.JPG		94 60 106 70	Wet Bulb Temp 42	
DATE OF THE PERSONS ASSESSED.	45	Foreground Coordinates	Date Taken 10/28/20	16 2:02:09 PM
	73	T L B R	Camera Mfg/Model Canon/C	anon PowerShot G15
		142 523 154 533	Wind Direction SW	Wind Speed 9
		Background Coordinates		
IMG_1244.JPG		T L B R	Temperature 56	Rel Humidity 60
IIVIG_1244.3FG		37 592 49 603	Wet Bulb Temp 42	
Mark This case of the	45	Foreground Coordinates	Date Taken 10/28/20	16 2:02:24 PM
	_	T L B R 165 429 177 439	Camera Mfg/Model Canon/C	anon PowerShot G15
			Wind Direction SW	Wind Speed 9
		Background Coordinates T L B R	Temperature 56	Rel Humidity 60
IMG_1245.JPG		172 96 184 107	Wet Bulb Temp 42	1 × 1
	- 27	Foreground Coordinates	Date Taken 10/28/20	16 2:02:30 DM
	45	T L B R		
		159 543 171 553	Camera Mfg/Model Canon/C	
		Background Coordinates	Wind Direction SW	Wind Speed 9
		T L B R	Temperature 56	Rel Humidity 60
IMG_1246.JPG	1	88 421 100 . 432	Wet Bulb Temp 42	
SEAST WINDOWS	40	Foreground Coordinates	Date Taken 10/28/20	16 2:02:54 PM
	1	T L B R	Camera Mfg/Model Canon/C	Canon PowerShot G15
		150 556 162 566	Wind Direction SW	Wind Speed 9
	18 ,	Background Coordinates	Temperature 56	Rel Humidity 60
IMG_1247.JPG		T L B R	SCHOOLSE IN TOTAL STATE OF THE STATE OF	Net Fulfillulty 60
IIVIO_1247.31 G		100 445 112 455	Wet Bulb Temp 42	
Francisco Color	45	Foreground Coordinates	Date Taken 10/28/20	016 2:03:09 PM
		T L B R	Camera Mfg/Model Canon/C	Canon PowerShot G15
		210 576 222 587	Mind Direction CW	Wind Creed O
98	I	n	Wind Direction SW	Wind Speed 9
		Background Coordinates T L B R	Temperature 56	Rel Humidity 60

mage	Opacity	Coordinates	Date Taken	Camera Information
	45	Foreground Coordinates	Date Taken 10/28/20	16 2:03:24 PM
		T L B R	Camera Mfg/Model Canon/C	anon PowerShot G15
		182 544 194 555	Wind Direction SW	Wind Speed 9
- Valley of		Background Coordinates	The second section of the sect	E STORMAN AND COMPANY TO
MO 4040 IDO		T L B R	Temperature 56	Rel Humidity 60
MG_1249.JPG		163 97 175 108	Wet Bulb Temp 42	u e
	45	Foreground Coordinates	Date Taken 10/28/20	16 2:03:39 PM
		T L B R	Camera Mfg/Model Canon/C	anon PowerShot G15
		195 544 207 555	Wind Direction SW	Wind Speed 9
		Background Coordinates		
IMO 4050 IDO		T L B R	Temperature 56	Rel Humidity 60
IMG_1250.JPG	- 1	189 149 201 160	Wet Bulb Temp 42	n d s
Maria de Constant	50	Foreground Coordinates	Date Taken 10/28/20	16 2:03:54 PM
No. 1		T L B R	Camera Mfg/Model Canon/C	anon PowerShot G15
I was to be a		196 569 208 580	Wind Direction SW	Wind Speed 9
1	2 .	Background Coordinates	Temperature 56	Rel Humidity 60
IMG_1251.JPG	8 -	T L B R		Rei Huillialty 00
IIVIG_1251.JFG		150 223 162 233	Wet Bulb Temp 42	
	40	Foreground Coordinates	Date Taken 10/28/20	16 2:04:09 PM
		T L B R	Camera Mfg/Model Canon/C	anon PowerShot G15
	2	195 566 207 577	Wind Direction SW	Wind Speed 9
	= 2 %	Background Coordinates	Temperature 56	Rel Humidity 60
IMG_1252.JPG		T L B R		iter number of
IIMO_1202.01 G		189 223 201 233	Wet Bulb Temp 42	6
	45	Foreground Coordinates	Date Taken 10/28/20	16 2:04:24 PM
		T L B R	Camera Mfg/Model Canon/C	Canon PowerShot G15
		192 433 204 444	Wind Direction SW	Wind Speed 9
		Background Coordinates	Temperature 56	Rel Humidity 60
IMG_1253.JPG			Wet Bulb Temp 42	Tto Training 55
			Wet Build Tellip 42	
	45	Foreground Coordinates T L B R	Date Taken 10/28/20	016 2:04:39 PM
		192 475 204 485	Camera Mfg/Model Canon/C	Canon PowerShot G15
			Wind Direction SW	Wind Speed 9
		Background Coordinates T L B R	Temperature 56	Rel Humidity 60
IMG 1254.JPG		T L B R 190 341 202 352	Wet Bulb Temp 42	
PERSONAL PROPERTY.	40	Foreground Coordinates T L B R	Date Taken 10/28/20	016 2:04:54 PM
		T L B R	Camera Mfg/Model Canon/C	Canon PowerShot G15
			Wind Direction SW	Wind Speed 9
		Background Coordinates T L B R	Temperature 56	Rel Humidity 60
IMG_1255.JPG		169 353 181 364	Wet Bulb Temp 42	
			-	
	45	T I R R		
			Camera Mfg/Model Canon/C	Canon PowerShot G15
	F		Wind Direction SW	Wind Speed 9
THE RESERVE OF THE PERSON NAMED IN COLUMN 2 IS NOT THE PERSON NAME		Background Coordinates	Temperature 56	Rel Humidity 60
		T L B R	lemperature 50	Rei Hulliuity 00
75	45	Foreground Coordinates	Wind Direction SW	Canon PowerShot G15 Wind Speed 9